

**COLORADO RIVER RECOVERY PROGRAM  
FY-2001 PROPOSED SCOPE OF WORK**

**No.: CAP- 5**  
(for MC Use)

Lead Agency:	U.S. Bureau of Reclamation	<u>Category (check)</u>	<u>Expected</u>
Submitted by:	Brent Uilenberg	<input checked="" type="checkbox"/> Ongoing	<input type="checkbox"/> Annual
Address:	Bureau of Reclamation	<input type="checkbox"/> Requested	<input checked="" type="checkbox"/> Capital
	2764 Compass Dr., Suite 106	<input type="checkbox"/> Unsolicited	<input type="checkbox"/> Other
	Grand Junction, CO 81506		
Phone:	(970) 248-0641		
FAX:	(970) 248-0601		
email:	builenberg@uc.usbr.gov		
Date:	August 16, 2000		

I. Title of Proposal

Fish Passage at the Price-Stubb Diversion Dam.

II. Relationship to RIPRAP

Colorado River Action Plan: Mainstem II.B.1.

III. Study Goals, Objectives, End Product

Fish Passage at the Price-Stubb Diversion Dam.

IV. Past Performance

During the preparation of the Draft EA for providing fish passage at the Price-Stubb Diversion dam several issues were identified. Dam removal appears to be the most cost effective passage alternative and is the most natural form of passage.

Before Reclamation could remove the dam, four outstanding issues would have to be resolved:

- 1) Develop mitigation measures to resolve the Ute Water pumping plant issue
- 2) Determine whether a hydropower plant will be developed at the dam site
- 3) Obtain permission for dam removal from owners of the dam. The Mesa County Irrigation District has expressed support for dam removal, but the Palisade Irrigation District is currently opposed to removal.
- 4) Preliminary geologic investigations indicate landslide stability is not an issue. However, if further investigation and monitoring show that dam removal would decrease landslide stability, this alternative would be eliminated from further consideration.

## **Ute Water Pumping Plant Intake**

**Issue:** Dam removal would adversely affect Ute Water's ability to pump water from the Colorado River.

**Existing Conditions:** Ute Water provides water to about 60,000 residents of the Grand Valley. Their primary water supply is transported via a pipeline from the Plateau Creek drainage off the

Grand Mesa. Ute Water's pumping plant, located approximately 2,000 feet upstream of the dam, is normally used as an emergency backup water supply.

Ute Water is currently reconstructing their primary water supply pipeline from Plateau Creek. Whenever the Plateau Creek pipeline is out of service during the next 3 to 4 years, the pumping plant will be used to pump water from the Colorado River. The pumping plant can supply about 15 cfs, which is about 60 percent of the peak daily demand during the summer. As a result, the pipeline reconstruction work will take place during lower demand periods in the winter and spring. Unfortunately, the schedule for this fish passage project coincides with Ute Water's pipeline replacement.

Pumping operations require a water surface elevation of about 4,722 feet in the river (Collins, 1999). The dam helps maintain the required water elevation for pumping operations, especially during low flow conditions.

## **Impacts**

**Dam Removal:** As discussed above, the Ute Water pumping plant requires a river elevation of at least 4,722 feet. With the dam removed, the river elevation would drop below 4,722 feet whenever the flow is less than 5,500 cfs. Review of historic flow data (average of monthly mean flows from 1933 through 1996) shows Colorado River flows are usually below 5,500 cfs for 9 months each year, from August through April.

While the Plateau Creek pipeline is being reconstructed, the pump plant will be the primary water supply during the winter and spring. Consequently, until the pipeline project is completed, severe impacts to water supplies for Grand Valley residents could occur for 9 months each year. Even after the pipeline is complete, the pump plant will still be needed as a backup water supply. Ute Water and Reclamation have identified a number of options to mitigate impacts to pumping operations caused by dam removal.

Ute Water anticipates construction of their new Plateau Creek pipeline will be complete in the fall of 2002. The increased capacity, improved design, and better route of this pipeline will be a dramatic improvement over the existing Plateau Creek pipeline. Ute Water expects the new pipeline to be much more reliable, which will reduce their need to use the pumping plant. Consequently, Ute Water would be more receptive to mitigation measures for dam removal after the new pipeline is completed (meeting with Ute Water, 4/7/99).

## **Hydropower License**

**Issue:** The alternatives could affect the licensee's use of the site to generate hydroelectricity.

**Existing Conditions:** The Jacobson Hydro No. 1 Project proposes to produce hydroelectric power using the Price-Stubb Diversion Dam. After 7 years of study, FERC issued a license on June 19, 1990 to allow non-Federal development of this hydropower project. The project's development has been delayed for several reasons, and plans are underway to amend development plans for the project. On August 7, 1996, the licensee filed an application to amend the project. Proposed amendments included:

- 1) reduce the installed capacity of the project turbines to 999 kilowatts;
- 2) locate the power house next to the dam (eliminating the need for a power canal);

- 3) dedicate up to 100 cfs of water to be used for a fish ladder, attraction flows, and larval separation in the endangered fish recovery effort;
- 4) dedicate construction and operation and maintenance easements for a fish passage structure.

Allowing construction of a fish passage is a condition of the existing hydropower license (FERC No. 4515) to remove jeopardy of the development on the endangered fish. According to Article 411 of the existing FERC license, "FERC reserves the authority to require the licensee to construct, operate and maintain, or provide for the construction, operation and maintenance of, such fishway as may be prescribed by the Secretary of the Interior" (FERC, 1990). FERC prepared a Draft EA on the proposed amendment. The amended project specifically proposes to:

"dedicate a right-of-way or similar property easement to the U.S. Bureau of Reclamation (USBR) for the installation of a fish ladder which is being fully funded by the USBR as partial mitigation for reductions in habitat due to large dam projects below the Jacobson Hydro No. 1 Project on the Colorado River" (FERC, 1996).

The amendment's reduction in the installed capacity corresponds to a reduced diversion requirement of about 1,000 cfs (FERC, 1995). *Reclamation's implementation of any fish passage proposal at the Price-Stubb Dam would be affected by FERC's decision on the license for the Jacobson Hydro No. 1 Project and/or the licensee's decision to proceed with hydropower development.*

## **Impacts**

**Dam Removal:** Removal of the Price-Stubb Diversion Dam would preclude development of the dam site for power generation. Economic impacts related to dam removal, if any, would be considered following FERC's licensing decision. Reclamation contracted with a licensed appraiser to determine the value of the FERC license. The appraiser found that the project is not economic and that the license had no value. The developer contends that it is viable but his analysis is supported by power rates that are not currently available and construction costs that are very low.

**Conclusion:** Alternatives to solve the Ute Water pumping issue to Ute Water's satisfaction could easily approach an additional \$1,000,000. However, if the Recovery Program delays pursuing passage at the Price-Stubb Dam until after their pipeline is complete, a more economical, but not as reliable solution would be acceptable to Ute Water. This option would cost about \$150,000 - \$250,000 to implement. Even though the option is less reliable, Ute Water would be agreeable to this option since their pipeline is more reliable.

The FERC hydropower license issue will be resolved in the ongoing NEPA process. An EA has been released by FERC. A final decision regarding which passage alternative to pursue is dependent on the resolution of the Ute pumping plant, Jacobson hydropower license and ongoing geologic monitoring and evaluations.

**Recommendation:** Wait until FERC makes a decision on the proposed license amendment. The only passage option that is compatible with hydropower development is a fish ladder similar to the Redlands Fish Ladder. Since the Reclamation's preferred alternative is dam removal, FERC would have to make a decision to revoke the current license.

**New Alternative:** An alternative was identified during the comment period on the Draft Environmental Assessment that would permit construction of fish passage prior to the completion

of Ute Water's pipeline. This alternative would be similar to the passageway constructed at Grand Valley Irrigation Company's Diversion dam. The existing dam would be left in place and a passageway would be constructed downstream. Positive aspects of this alternative include no potential disturbance to the upstream landslide, no effect to Ute Water, and no potential threat to the upstream river siphon. This option would not be compatible with hydropower development. Costs estimates indicate that this alternative would cost 25 to 50 percent more than the delayed dam removal option. Recreational interest in the Grand Valley including the Grand Junction River Front Commission have indicated a willingness to pay for the increased cost due to the recreational potential. Fiscal Year 2000 activities include developing physical model to determine if this option is possible.

#### V. Task description

1. Obtain permission from landowner to gain access to the site.
2. Public scoping and alternative development
3. Hydraulic model of proposed improvements
4. Drilling of slide adjacent to dam and slide analysis.
5. NEPA and permitting.
6. Prepare plans and specifications for recommended passage option.
7. Construction of passage option.
8. Passage evaluation
9. Operate passage facility

#### VI. Study Schedule and Budget

Task	1999	2000	2001	2002	2003	2004	Total
1							0
2	45,000						45,000
3	10,000	80,000					90,000
4	75,000	110,000	50,000				235,000
5	45,000	10,000	30,000				85,000
6				250,000			250,000
7.				520,000	800,000		1,320,000
8						50,000	
9							0
Total	175,000	200,000	80,000	770,000	800,000	50,000	2,075,000